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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,829	10/23/2003	Mehrdad Hassanzadeh	Q78184	5420

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EXAMINER	
PHAN, THIEM D	

ART UNIT	PAPER NUMBER
3729	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,829	HASSANZADEH ET AL.	
	Examiner	Art Unit	
	Tim Phan	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *19-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 08/25/06 has been fully considered and made of record.

Election/Restrictions

2. Since Applicants elected without traverse Group I, Claims 1-18, on 2/17/06, applicants are required to cancel these nonelected claims (19-27) or take other appropriate action.

An Office Action on the merits of Claims 1-18 now follows.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakich et al (US 5,926,356) in view of Kresge (US 4,100,588).

With regard to claim 1, Sakich et al teach a process for making varistor-based surge

arresters (Col. 1, lines 6-17)), comprising:

- making a stack of varistors (Fig. 2, 60 & 62; col. 4, lines 7-9) such that the varistors electrically connect each other; and
- forming a coating (Fig. 1, 64) of composite material on the stack of varistors;
- wherein, between the steps of making the stack and forming the coating of composite material, the method includes the step of depositing a bead or film of flexible, adhesive, and dielectric material (Fig. 2, 110; col. 4, lines 37-41) on the previously-formed stack at interfaces between each adjacent pair of varistors where the varistors connect each other.

Kresge teaches a process of transferring heat away from the surge arrester with a limitation of coating the varistor (Fig. 1, 16; col. 3, lines 50-54) with conductive material in order to improve the physical contact and electrical connection between the varistors.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the coating process to the varistors, as taught by Kresge, to the process for making varistor-based surge arresters as taught by Sakich et al in order to improve the physical contact and electrical connection between the varistors.

With regard to claim 2, Sakich et al teach that the beads of flexible, adhesive, and dielectric material are made on the basis of an elastomer or plastic (Fig. 2, 110; col. 4, lines 37-41).

With regard to claim 3, Sakich et al teach that the material constituting the beads (Fig. 2, 110; col. 4, lines 49-51) is adapted to eliminate all pockets of air from the interfaces between

each adjacent pair of varistors, to prevent material penetrating into said interfaces, and to provide elastic bonding between the stack of varistors and the coating of composite material.

With regard to claim 4, Sakich et al teach a process for making varistor-based surge arresters including the bead or film thickness less than 5mm (Col. 4, line 45), which reads on applicants' claimed invention; except for having its width of 5mm.

It is mere matter of design choice to have the bead or film width of 5mm or more and it appears that the bed or film with its width covering the entire surface of the varistors of Sakich et al would perform equally well without a width limitation.

With regard to claim 5, Sakich et al teach that the material constituting the beads has no acetic acid.

With regard to claim 6, Sakich et al teach that the steps of depositing an outer envelope (Fig. 1, 58) on the coating of composite material and using said outer envelope as a mold for shaping the body of the arrestor by a radial compression effect during a polymerization step.

With regard to claim 7, Sakich et al teach that the outer envelope (Fig. 1, 58) possesses annular fins.

With regard to claim 8, Sakich et al teach the step of depositing beads of adhesive/sealing agent (Fig. 1, 130) on the coating of composite material (Fig. 1, 64) prior to installing an outer envelope (Fig. 1, 58).

With regard to claim 9, Sakich et al teach that the beads of adhesive/sealing agent (Fig.

1, 130; col. 5, lines 17-21) deposited on the coating of composite material are made of silicone mastic.

With regard to claim 10, Sakich et al teach that the beads of adhesive/sealing agent deposited on the coating of composite material are shaped as rings.

With regard to claim 11, Sakich et al teach that the coating of composite material (Fig. 1, 64) is wound helically.

With regard to claim 12, Sakich et al teach that the coating of composite material (Fig. 1, 64; col. 4, lines 10 & 11) is made by helically winding a preimpregnated woven tape or ceramic fiber with overlap of 50%.

With regard to claim 13, Sakich et al teach that the coating of composite material (Fig. 1, 64) has rings of preimpregnated woven tape deposited in register with the interfaces between adjacent pairs of varistors.

With regard to claim 14, Sakich et al teach that the arrestor also has an envelope (Fig. 1, 58) deposited on the coating of composite material (Fig. 1, 64) to reinforce the dielectric behavior of the arrestor.

With regard to claim 15, Sakich et al teach a process for making varistor-based surge arresters including the coating of composite material of a non-conductive winding or ceramic fiber (Col. 4, lines 10 & 11), which reads on applicants' claimed invention; except for having its composite material based on glass fibers and epoxy resin with a resin content lying in the range one-third to one-half by weight.

It is mere matter of design choice to have the composite material based on glass fibers

and epoxy resin with a resin content lying in the range one-third to one-half by weight and it appears that the invention of Sakich et al would perform equally well wit a ceramic fiber composition.

With regard to claim 16, Sakich et al teach that the coating of composite material (Fig. 1, 64) is made under axial compression of the stack of varistors (Fig. 2, 60 & 62).

With regard to claim 17, Sakich et al teach that the varistors are not enameled.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakich et al in view of Kresge and further view of Helgeland et al (US 3,645,784).

Sakich et al in view of Kresge teach a process for making varistor-based surge arresters, which reads on applicants' claimed invention.

Helgeland et al teach a process of coating wire-wound resistor of vitreous or lead-free enamel in order to withstand increased stresses due to the different coefficients of expansion of the resistive elements and coating.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the three teachings by applying the coating process with lead free enamel to resistive material, as taught by Helgeland et al and not its general structure, to the process for making varistor-based surge arresters, as taught by Sakich et al in view of Kresge, in order to withstand increased stresses due to the different coefficients of expansion of the resistive elements and coating.

Response to Arguments

6. Applicants' arguments with respect to claims 1-18 have been considered but are moot in view of the new grounds of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

This Office Action is a **non-Final** Office Action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan
Examiner
Art Unit 3729

tp
October 19, 2006

A. DEXTER TUGBANG
PRIMARY EXAMINER